April 15, 1970

The new questionnaire authorized by the Transformers Committee was approved in its final form for circulation. This questionnaire will attempt to update information in the appendix of the oil guide on user maintenance practices. Hopefully a new revision of the oil guide will incorporate a new, more modern appendix and the necessary information in Section III being prepared by Al Locke.

A subcommittee letter ballot was held on "Specifications For New, Unused Transformer Type Askarels". A number of negative votes were obtained pointing out certain deficiencies and required editorial changes. These will be made and a new ballot taken.

The Insulating Fluids Subcommittee spent considerable time discussing some recent evidence indicating that certain askarel types might become environmental contaminants if handled carelessly. As a result of this discussion and in view of the increasing public concern with all matters concerned with environmental matters, the Insulating Fluids Subcommittee requests that the following statement be recorded in the minutes.

> "We (the Insulating Fluids Subcommittee of the IEEE Transformers Committee) feel that the users of electrical equipment containing askarel should be aware of a notification received by the manufacturers of such apparatus from the Monsanto Company. This notification was dated February 18, 1970 and evidenced some concern that certain askarel types might become environmental contaminants if handled carelessly. In part, the Monsanto letter states:
>
> 'Recently several newspaper and magazine articles have been published indicating that Polychlorinated Biphenyls (PCB's) have been discovered at some points in some marine, aquatic and wildlife environments. The quantities detected are said to be in the parts per million and parts per billion category.
>
> 'It is claimed that the PCB's found strongly resemble chlorinated biphenyls containing 54% and 60% chlorine by weight. Products which are sold by Monsanto under the trade names of Aroclor 1254 and 1260 do contain chlorinated biphenyls.
>
> 'As your supplier of Aroclor 1254 and 1260 and formulated products containing 1254, we wish to alert you to the potential problem of environmental contamination as referred to in the newspaper and magazine articles.
>
> 'We feel that all possible care should be taken in the application, processing and effluent disposal of these products to prevent them becoming environmental contaminants.
>
> ' As a user of askarel-filled electrical equipment, we feel that in the unusual event of leaks or equipment repair necessitating replacement of the fluid, that all possible care should be taken to prevent these products from finding their way into the waterways.' "

Mr. Raab commented that the Monsanto products under discussion are not only used in making askarel, but are also sold for many other applications such as heat transfer agents, plasticizers, green paints, etc. Therefore the Monsanto Company intends to withdraw the product from applications which are uncontrollable.

Mr. Alexander asked how askarel should be disposed of when it reaches the end of its useful life. Mr. Raab explained that a tentative arrangement has been made with the Monsanto Company for them to store the askarel at the users' expense until it can be destroyed at 1100°C in a stainless steel incinerator using scrubbers. The tentative fee is 3 cents per pound plus shipping charges to be paid for by the user.

Mr. Margolis asked what the harmful effects were. Mr. Raab indicated an answer would be extremely complicated but briefly it affected the biological chain similarly to persistent insecticides (DDT, etc.) As a result species of birds and fishes are mortally affected. At this time it is not thought to have danger to human life.

3.5 Audible Sound Subcommittee - E.H.Wendt

Mr. Wendt reported that this subcommittee met at 9:00 A.M. on Tuesday, April 14, 1970 at the Motel.

Eleven members were present or represented and seven guests.

The guests were:

R.H.Hollister	Westinghouse, South Boston, Va.
M.J.Maier	New Orleans Public Service
L.J.Savio	Con Edison, New York
N.J.Melton	Duke Power Co., Charlotte, N.C.
R.A.Olson	Long Island Lighting Co., Hicksville, N.Y.
L.W.Long	Duke Power Co., Charlotte, N.C.
A.E.Stevens	Standard Transformer Co., Warren, Ohio.

The minutes of the Toronto Meeting were accepted as written.

The main item on the agenda was discussion of "Audible Sound Levels and Tests, Proposed Changes to C57.21 ANSI Terminology and Test Code for Shunt Reactors". This was presented by Mr. Specht, Chairman of the Working Group on Technical Investigations.

The first part of the discussion centered on a table of sound levels based on transformers of equivalent size with the thought that the sound level of reactors would be about 8 decibels higher than the equivalent size transformer. It was finally the consensus of the subcommittee that enough reference data had not been established to assign definite levels for reactors. It was also questioned whether ANSI would be agreeable to the establishment of sound levels for reactors.

The method of measurement was discussed at considerable length. It was agreed that more distinction should be given to dry type and oil filled reactors.

EXHIBIT F